

- a [second surface] base contact region of said first conductivity type[, suitable as a base contact];
- a well of opposite conductivity type surrounding said [first and second surface] emitter and base contact regions, extending from said surface deep into said semiconductor material [of said first conductivity type]; and
- a [layer] collector region of said opposite conductivity type buried in said semiconductor material [of said first conductivity type, suitable as collector of said transistor having sharp junctions];
- a subsurface base region comprising a semiconductor band of said first conductivity type between said [layer] collector and said [surface and] emitter surrounded by said well, [said band suitable as the base of said transistor providing] having a width [controlled] determined by (the [proximity] distance of said buried layer junction [to] from said surface, and a resistivity [higher] greater than (the remainder of said semiconductor material, thereby enabling said [vertical bipolar] transistor to operate [as] with a low breakdown voltage [transistor] for low ESD clamping voltage and high beta;
- said [layer] collector extending laterally to said well[s], thereby electrically isolating the base and emitter [portions] of said transistor